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ABSTRACT

This health curriculum guide, intended for use in grades ten through twelve, addresses itself to disease prevention and control concepts which are particularly relevant to the adolescent's physical health needs. The contents of the guide are presented in outline form and cover source of injection, preventing the spread of communicable diseases, common communicable diseases, public health control of communicable diseases, and biological warfare. For each content area and its sub-divisions fundamental concepts and understandings, teaching aids, and learning activities are suggested. The guide also supplies supplementary information for teachers, as well as multimedia resources for use when presenting the unit. Pupil objectives for this physical health unit are given in terms of the student's increased understanding of how to protect himself and others from communicable diseases, of his appreciation for the interrelated responsibilities of individual and community in controlling communicable diseases, and of his familiarity with those community health services designed to help control communicable diseases. (SES)

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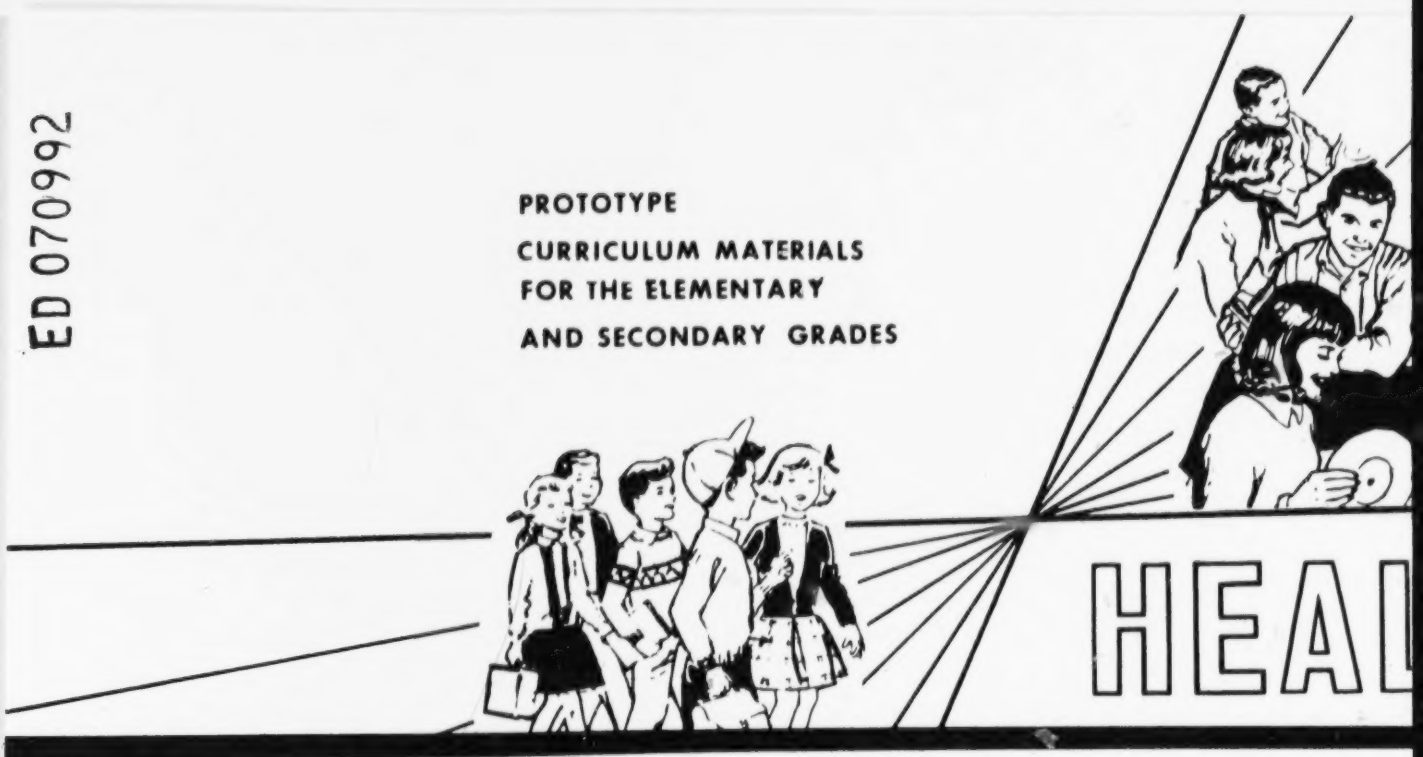
PROTOTYPE
CURRICULUM MATERIALS
FOR THE ELEMENTARY
AND SECONDARY GRADES



HEAL

STRAND I PHYSICAL HEA

CG 007 697

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Disease Prevention and
Grades 10, 11, and 12

Special edition for
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THE UNIVERSITY OF THE STATE OF NEW YORK/THE STATE EDUCATION DEPARTME
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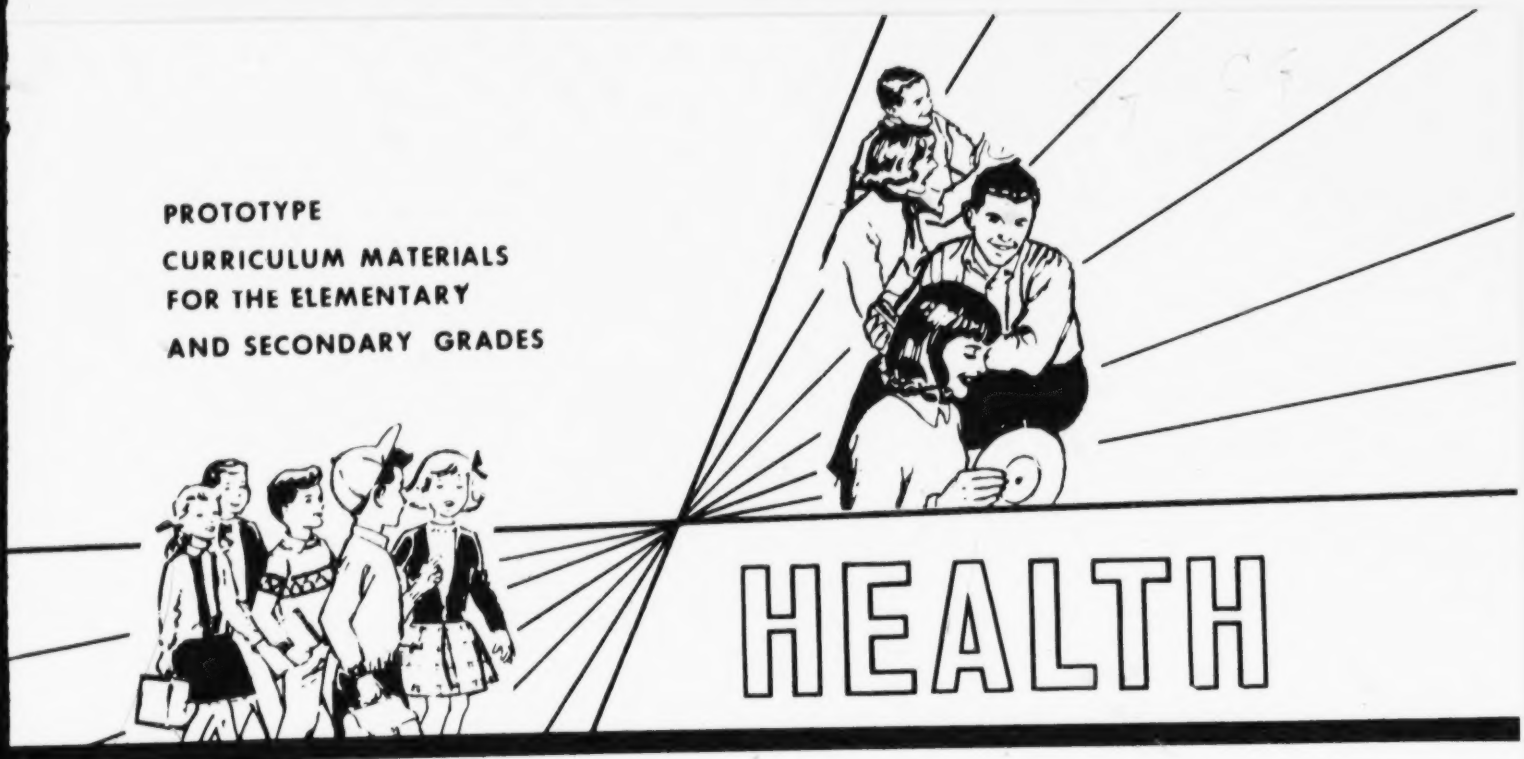

HEALTH

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ED 070992

HEALTH CURRICULUM MATERIALS
Grades 10, 11, 12

STRAND I - PHYSICAL HEALTH
DISEASE PREVENTION AND CONTROL

1970 Reprint

The University of the State of New York/The State Education Department
Bureau of Secondary Curriculum Development/Albany 12224
1969

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FOREWORD

This publication contains curriculum suggestions for teaching Strand I - Physical Health, Disease Prevention and Control, for grades 10, 11, and 12.

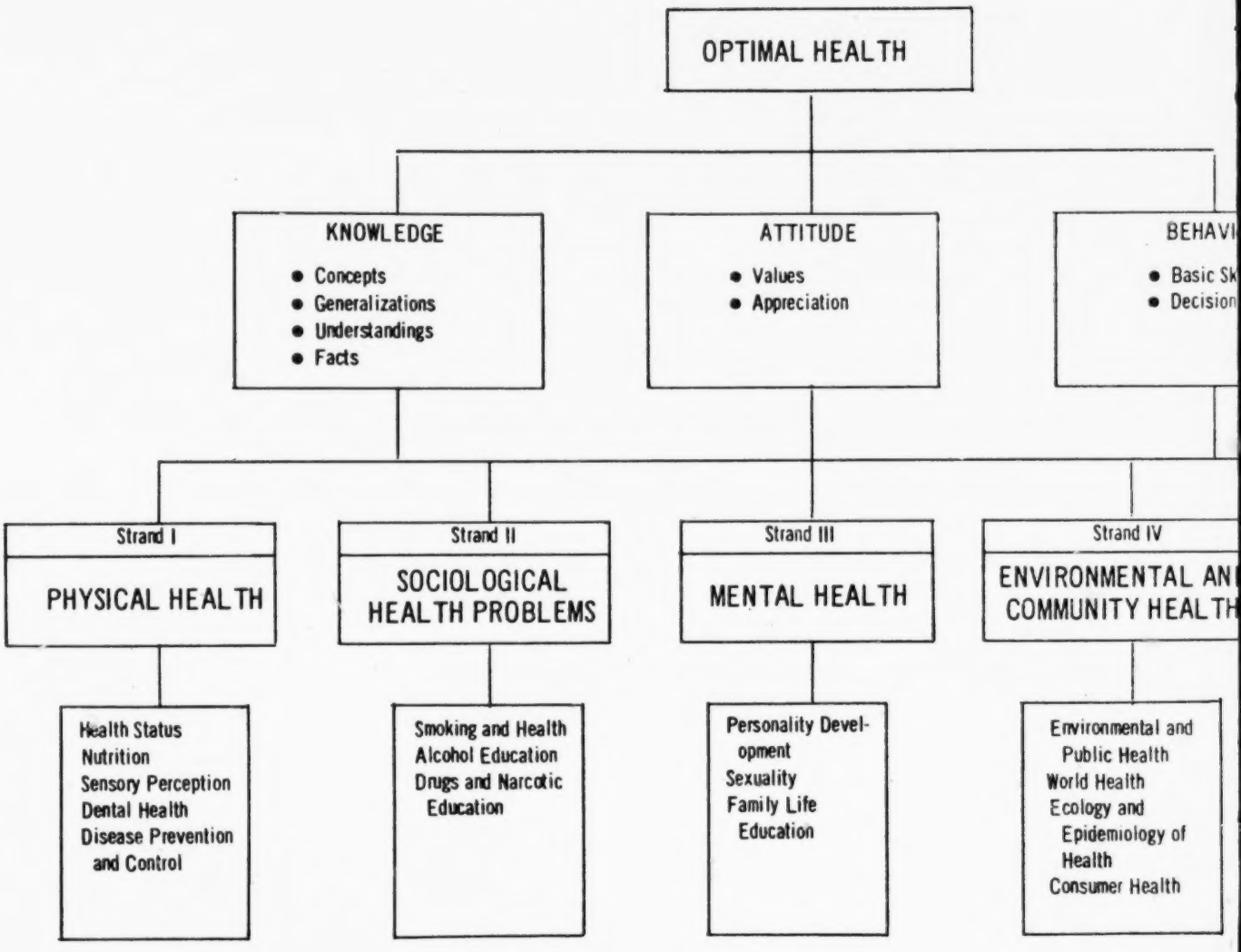
The publication format of four columns is intended to provide teachers with a basic content outline in the first column; a listing of the major understandings and fundamental concepts which children may achieve, in the second column; and information specifically designed for classroom teaching which should provide them with resource materials, teaching aids, and supplementary information, in the third and fourth columns. The comprehensive nature of the health program makes it imperative that teachers gain familiarity with all of the strands presently in print. In this way, important teaching-learning experiences may be developed by cross referring from one strand to another.

It is recommended that the health coordinator in each school system review these materials carefully and consult with teachers, administrators, and leaders of interested parent groups in order to determine the most appropriate manner in which to utilize this strand as an integral part of a locally adapted, broad and comprehensive program in health education.

The curriculum materials presented here are in tentative form and are subject to modification in content and sequence. Critiques of the format, content, and sequence are welcomed.

Gordon E. Van Hooft
Chief, Bureau of Secondary Curriculum Development

William E. Young
Director, Curriculum Development Center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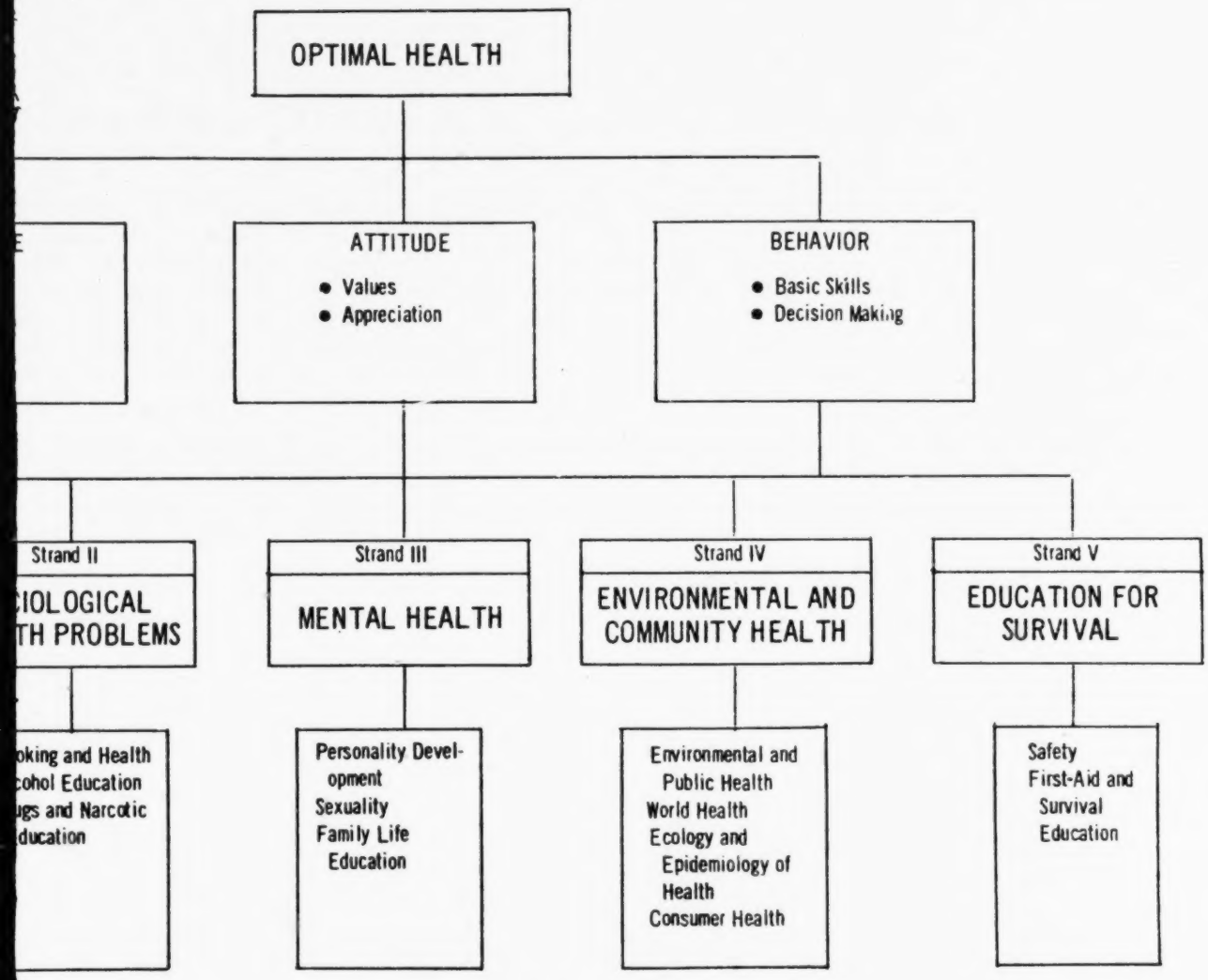
KNOWLEDGE
• Concepts
• Generalizations
• Understandings
• Facts
ATTITUDE
• Values
• Appreciation
BEHAVI
• Basic Sk
• Decision
Strand I
PHYSICAL HEALTH
Strand II
SOCIOLOGICAL HEALTH PROBLEMS
Strand III
MENTAL HEALTH
Strand IV
ENVIRONMENTAL AN
COMMUNITY HEALTH
Health Status
Nutrition
Sensory Perception
Dental Health
Disease Prevention and Control
Smoking and Health
Alcohol Education
Drugs and Narcotic Education
Personality Development
Sexuality
Family Life Education
Environmental and Public Health
World Health
Ecology and Epidemiology of Health
Consumer Health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Strand III
MENTAL HEALTH
Personality Development
Sexuality
Family Life Education
Strand IV
ENVIRONMENTAL AND COMMUNITY HEALTH
Environmental and Public Health
World Health
Ecology and Epidemiology of Health
Consumer Health
Strand V
EDUCATION FOR SURVIVAL
Safety
First-Aid and Survival Education

DISEASE PREVENTION AND CONTROL

GRADES 10, 11, 12

Overview

High school students have, for the most part, passed through the period of high susceptibility to "childhood" diseases. This is not to suggest that measles, mumps, etc. are nonexistent among teen-agers.

However, the more urgent disease prevention and control concepts for this age group are related to their particular health needs. For example, the resurgence of venereal diseases, especially among teen-agers, deserves special emphasis. The preventive aspects of other diseases that pose problems to teen-agers and adults have also been included in these materials.

Pupil Objectives

Pupils in grades 10-12 should:

1. understand how to protect themselves from communicable diseases.
2. apply their knowledge of communicable diseases to protect others with whom they come in contact.
3. understand that the individual and the community have interrelated responsibilities in controlling communicable diseases.
4. be familiar with those community health services designed to control communicable diseases.

CONTENTS

GRADES 10-12

		Page
	Objectives	iv
I.	Source of Infection	1
II.	Preventing the Spread of Communicable Diseases	1
III.	Control Methods	1
IV.	Specific Types of Communicable Diseases	2
	A. "Childhood diseases"	2
	B. Diseases spread through air	2
	C. Transmission	2
V.	Common Communicable Diseases	3
	A. Chicken pox	3
	B. Measles	4
	C. Mumps	6
	D. Scarlet fever	6
	E. Pneumonia	7
	F. Tuberculosis	8
	G. The common cold	9
	H. Influenza	10
	I. Poliomyelitis	11
	J. Hepatitis	12
	K. Rabies	14
	L. Other diseases spread through contact with infected persons	16
VI.	Public Health Control of Communicable Diseases	22
VII.	Biological Warfare	23

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPP
I. Source of Infections	The real source of infection lies in the secretions and excretions from the persons or animals harboring the germs. It is through actual contact with these body discharges that germs pass from one person to another.		Teacher Strand if stud vious h
II. Preventing the Spread of Communicable Disease	Knowledge of disease-producing organisms and of the way they are spread has made it possible to develop measures to prevent and control the spread of communicable diseases.	Reference: Control of Communicable Disease in Man, American Public Health Association, 1790 Broadway, New York, New York ($1.60).	
III. Control Methods	There are three basic elements in the control of any communicable disease: 1. increase resistance 2. control or eliminate the source of infection 3. control the mode of transmission	Outline the chain of infection of any communicable disease; determine how control measures break the chain of transmission.	Frequen disease is appr control 1. An av us 2. Th ex wh co 3. Th mi fo co me

OR UNDERSTANDINGS AND UNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
real source of infec- lies in the secretions excretions from the ons or animals harbor- the germs.		Teacher Reference: Strand I (7, 8, 9), particularly if students have had no previous health course.
s through actual contact these body discharges germs pass from one on to another.		
ledge of disease-pro- ng organisms and of way they are spread made it possible to lop measures to prevent control the spread of unicable diseases.	Reference: Control of Communicable Disease in Man, American Public Health Association, 1790 Broadway, New York, New York ($1.60).	
e are three basic ele- s in the control of any unicable disease: increase resistance control or eliminate the source of infec- tion control the mode of transmission	Outline the chain of infection of any communicable disease; determine how control measures break the chain of transmission.	Frequently the control of a disease, i.e. typhoid fever, is approached through all three control measures. 1. An effective vaccine is available and should be used for high-risk persons. 2. The source of infection exists in human carriers who are kept under strict control. 3. The disease may be transmitted through milk, water, food, flies, etc.; and control of these environmental factors is essential.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	
IV. Specific Types of Communicable Diseases			
A. "Childhood diseases"	Though it was once believed that "childhood diseases" were part of growing up and that it was advantageous to have them early in life, it is now known that it is not good for children to have any disease.	Discuss the prevalence of "childhood diseases" since 1900. What factors have resulted in these changes? Reference: Vital Statistics, Health, Education, and Welfare.	Va wh po is sh of
	Despite the fact that "childhood diseases" most commonly occur in childhood, they do attack adults.	Have the students do a survey in order to discover how many students have had specific "childhood diseases." Of those who have not had specific diseases, how many have knowingly been exposed to the disease? How can such cases be explained?	
B. Diseases spread through the air	Many diseases, particularly respiratory infections, are spread by droplet infection.		
C. Transmission			
1. Droplet infection	A sneeze or cough sends a spray of moisture into the air, every droplet of which may be loaded with virulent organisms.		Moi exp ord

UNDERSTANDINGS AND DAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
it was once believed childhood diseases" art of growing up and t was advantageous e them early in life, now known that it is od for children to ny disease.	Discuss the prevalence of "childhood diseases" since 1900. What factors have resulted in these changes? Reference: Vital Statistics, Health, Education, and Welfare.	Vaccination against diphtheria, whooping cough, tetanus, smallpox, measles, polio, and mumps is now available and no one should be exposed to the hazards of these diseases.
e the fact that hood diseases" most y occur in childhood, attack adults.	Have the students do a survey in order to discover how many students have had specific "childhood diseases." Of those who have not had specific diseases, how many have knowingly been exposed to the disease? How can such cases be explained?	
iseases, particularly itory infections, are by droplet infection.		
ze or cough sends a of moisture into the very droplet of which loaded wit virulent ms.		Moisture particles may also be expelled from the mouth during ordinary conversation.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	S
			Germ vary will quic grav pers
2. Airborne infection	The droplets of smaller size may remain suspended in the air for considerable periods and when they evaporate, they leave a residue of fine dust-like particles which may contain viable pathogenic organisms.	Does the custodial staff treat the school's floor with disinfecting substances? If your superintendant for buildings and grounds is prepared to discuss additional methods to "disinfect" the school, invite him to your class to do so (ventilation, heating, etc.).	Thes pers curr a di by i The of d will mark ical and or a

IN STUDYING THE PREVENTION AND CONTROL OF DISEASE, EMPHASIS SHOULD BE ON UNDERSTANDING THE BROAD HEALTH CONCEPTS. SELECTION OF THE SPECIFIC COMMUNICABLE DISEASES TO BE STUDIED SHOULD BE BASED UPON NEEDS, INTERE AND CURRENT HEALTH PROBLEMS.

V. Common Communicable Diseases			
A. Chicken pox	Chicken pox is a viral disease, common in childhood, for which no vaccine is yet available.		Chick readi espec state one a munit

UNDERSTANDINGS AND AMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Germ-laden droplets may be of varying sizes. The larger ones will tend to settle out rather quickly under the influence of gravity and to affect those persons only in direct contact.
plets of smaller remain suspended air for considerable and when they te, they leave a of fine dust-like es which may contain pathogenic organ-	Does the custodial staff treat the school's floor with disinfecting substances? If your superintendant for buildings and grounds is prepared to discuss additional methods to "disinfect" the school, invite him to your class to do so (ventilation, heating, etc.).	These particles are readily dispersed over wide areas by small currents of air, and persons at a distance may become infected by inhaling them. The ability of different kinds of disease organisms to survive will vary. Survival will be markedly influenced by the physical state of the atmosphere, and such factors as the presence or absence of sunlight.

REVENTION AND CONTROL OF DISEASE, EMPHASIS SHOULD BE PLACED THE BROAD HEALTH CONCEPTS. SELECTION OF THE SPECIFIC ASES TO BE STUDIED SHOULD BE BASED UPON NEEDS, INTERESTS, H PROBLEMS.

pox is a viral common in child- r which no vaccine vailable.		Chicken pox is one of the most readily communicable diseases, especially during the early states of eruption. Ordinarily, one attack confers lasting immunity.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
B. Measles	There are two different types of measles, each caused by a virus.	
1. Causes		
2. Transmission		
a. Direct		
b. Indirect		
3. Susceptibility		
4. Types		
a. German measles (rubella)		
(1) Complications	German measles may result in serious complications when associated with early pregnancy.	
(2) Vaccine	A rubella vaccine is e expected to be ready for general use in the 1970's.	

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
There are two different types of measles, each caused by a virus.		A virus is a disease agent which is small enough to pass through a porcelain filter. Viruses are the smallest known forms of living disease-causing matter. Each infection is transmitted by droplet infection and articles contaminated by discharges from the nose and throat of an infected person. Persons of all ages are susceptible.
		German measles is often called the "3-day measles." Often it is so mild it may be undiagnosed.
German measles may result in serious complications when associated with early pregnancy.		Efforts to control rubella are prompted by the hazard of significant congenital defects in offspring of women who acquire the disease during pregnancy; most commonly, congenital cataracts, heart disease, and deafness.
A rubella vaccine is e expected to be ready for general use in the 1970's.		

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
b. Measles (rubeola)		
(1) Morbidity	At least 4 million cases of measles occurred in 1 year prior to the recently developed measles vaccine.	
(2) Complications	Measles is a disease to be avoided, since it can cause death or serious complications.	
(3) Vaccine	Even though a measles vaccine for general use has been available since 1963, about 12 million children in the United States are not immunized against measles.	Survey the class. What percent have been protected by vaccine? What prevention should others take? Research: Work of Dr. John Enders in the development of the measles vaccine. Reference: Today's Health, February 1968, p. 9. Fact sheet: "What You Should Know About Measles and the Measles Vaccine," New York State Health Department.

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		The other form of the disease is rubeola or, more commonly, "measles."
t least 4 million cases of easles occurred in 1 year rior to the recently devel- ped measles vaccine.		
easles is a disease to e avoided, since it can ause death or serious omplications.		Measles can result in serious complications, including respiratory illness, brain damage, and deafness. Infected persons need medical care.
ven though a measles vac- ine for general use has een available since 1963, bout 12 million children n the United States are ot immunized against easles.	Survey the class. What percent have been protected by vaccine? What prevention should others take? Research: Work of Dr. John Enders in the development of the measles vaccine. Reference: Today's Health, February 1968, p. 9. Fact sheet: "What You Should Know About Measles and the Measles Vaccine," New York State Health Department.	The American Academy of Pediatrics recommends that inactive (killed) measles vaccine should no longer be used. Attenuated measles vaccine should be given as soon as possible to children who received only the inactive vaccine.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUP
	Measles is a disease which may be eradicated by immunization.	Pamphlet: "A Letter To You, Mother, About Measles and Your Child," American Medical Association.	
C. Mumps			
1. Cause			Mumps is con person The di inflam saliva paroti the fa
2. Complications	Since inflammation of the ovaries or testicles may result in individuals after puberty, mumps poses a more serious threat to adults than to children.		Mumps adults Ovarie occasi after nervou involv
3. Vaccine	A vaccine that successfully prevents mumps was first made available in 1968.		
D. Scarlet fever			
1. Cause			The ca strept
2. Signs			Scarle throat by a "

UNDERSTANDINGS AND AMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
is a disease which eradicated by immun- .	Pamphlet: "A Letter To You, Mother, About Measles and Your Child," American Medical Association.	
		Mumps is caused by a virus which is contained in the saliva of a person infected with the disease. The disease is characterized by inflammation and swelling of the salivary glands, especially the parotid glands on the side of the face.
nflammation of the or testicles may in individuals after , mumps poses a rious threat to than to children.		Mumps may be more serious for adults than for children. Ovaries and testicles are occasionally involved in persons after puberty. The central nervous system may also be involved.
ne that successfully s mumps was first ailable in 1968.		
		The cause of scarlet fever is a streptococcus. Scarlet fever starts with a sore throat and is generally followed by a "scarlet" rash.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUP
3. Carriers			Scarle by ca of the
4. Treatment	The complications that were once common with scarlet fever are largely preventable by modern antibiotic therapy.		
5. Complications	Unless streptococcus infections are effectively treated early, they may result in more serious disorders such as rheumatic fever and nephritis.		Rheuma reacti causin joints damage valves Nephri bacter kidney
E. Pneumonia			
1. Causes	Various organisms, both bacterial and viral, may cause pneumonia, an infection of the lungs.	Pamphlet: "Pneumonia, the Facts," National TB Association.	
2. Morbidity and mortality			Pneumo infirm mains for ou
3. Prevention			Pneumo second and pr and fo stitut

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Scarlet fever may also be spread by carriers who have no symptoms of the disease.
he complications that were nce common with scarlet ever are largely prevent- ble by modern antibiotic herapy.		
nless streptococcus in- ections are effectively reated early, they may esult in more serious isorders such as rheumatic ever and nephritis.		Rheumatic fever is an allergic reaction to streptococcus, causing painful swelling of the joints and inflammation and damage to the heart and its valves. Nephritis is an acute or chronic bacterial infection of the kidneys.
arious organisms, both acterial and viral, may ause pneumonia, an infec- ion of the lungs.	Pamphlet: "Pneumonia, the Facts," National TB Association.	
		Pneumonia affects the aged and infirm most seriously. It remains a leading cause of death for our aged citizens. Pneumonia usually develops as a secondary infection. Prompt and proper treatment during and following an illness constitute preventive measures.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUP
F. Tuberculosis	Tuberculosis is usually thought of as a disease affecting the lungs, but it may develop almost anywhere in the body.		
1. Causes		Pamphlets: "This is Mr. TB Germ" "Help Fight TB" "What TB Means to You" "What You Need to Know About TB" "TB? Is That Still a Problem?" "The You in TB" National TB Association	The ca is the
2. Prevention	In preventing the spread of tuberculosis, it is important to detect the disease in its early stages.	Pamphlet: "How Your Body Fights TB," National TB Association	
3. Tuberculin testing	A negative reaction to the tuberculin test indicates that no tubercle bacilli are (or ever have been) present in the body. A positive reaction to the tuberculin test does not necessarily mean that the individual has tuberculosis. It indicates that, at some time in the past, germs of this disease entered the body.	Pamphlets: "Be Safe, Be Sure" "The Tuberculin Test" "You've Had Your Tuberculin Test" National TB Association Films: "Are You Positive?" "The Elusive Enemy" National TB Association	The tu is a c been v and co In thi tuberc betwee or app made o on the reacti reveal active To det active

DR UNDERSTANDINGS AND UNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
rculosis is usually ght of as a disease cting the lungs, but y develop almost any- in the body.		
	Pamphlets: "This is Mr. TB Germ" "Help Fight TB" "What TB Means to You" "What You Need to Know About TB" "TB? Is That Still a Problem?" "The You in TB" National TB Association	The cause of tuberculosis is the tubercle bacillus.
eventing the spread of culosis, it is impor- to detect the disease s early stages.	Pamphlet: "How Your Body Fights TB," National TB Association	
ative reaction to the culin test indicates no tubercle bacilli or ever have been) nt in the body.	Pamphlets: "Be Safe, Be Sure" "The Tuberculin Test" "You've Had Your Tuberculin Test" National TB Association	The tuberculin (Mantoux) test is a cheap, easy method and has been very effective in detecting and controlling tuberculosis. In this test an extract of tubercle bacillus is injected between the layers of the skin or applied to a light scratch made on the skin. A red spot on the skin indicates a positive reaction. This test does not reveal whether the lesion is active, inactive, or healed. To determine if the lesion is active an x-ray must be taken.
itive reaction to the culin test does not sarily mean that the idual has tubercu- . It indicates that, me time in the past, of this disease ed the body.	Films: "Are You Positive?" "The Elusive Enemy" National TB Association	

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	S
	A large percentage of people have been infected with TB at some time without being aware of it.		
4. X-ray	X-ray of the lungs is considered one of the most important aids in the diagnosis of pulmonary tuberculosis because it can indicate exposure to the disease before the other symptoms appear.	Pamphlet: "Do I Need a Chest x-ray?", National TB Association. Filmstrip: "The Long Adventure," National TB Association.	
5. Vaccine	A vaccine for the prevention of tuberculosis is available for use with selective uninfected (tuberculin negative) persons only.		Thou (BCG many not the Unit
G. The common cold	The common cold is the most widespread infectious disease found in man.	Pamphlets: "Common Cold," New York State Health Department. "Common Cold, the Facts," National TB Association.	
1. Causes			A va comm
2. Morbidity			Abou a co
3. Complications	The chief danger from a cold is that it leaves one susceptible to secondary infections such as pneumonia.		Many with cold

AJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
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ray of the lungs is sidered one of the most portant aids in the gnosis of pulmonary erculosis because it indicate exposure to disease before the er symptoms appear.	Pamphlet: "Do I Need a Chest x-ray?", National TB Association. Filmstrip: "The Long Adventure," National TB Association.	
accine for the preven- n of tuberculosis is ilable for use with ective uninfected berculin negative) sons only.		Though the tuberculosis vaccine (BCG) has been widely used in many parts of the world, it has not been used extensively with the general population in the United States.
common cold is the t widespread infectious ease found in man.	Pamphlets: "Common Cold," New York State Health Department. "Common Cold, the Facts," National TB Association.	
		A variety of viruses cause the common cold. About 83% of our population has a common cold each year.
chief danger from a d is that it leaves one ceptible to secondary ections such as umonia.		Many communicable diseases begin with the symptoms of a common cold.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	S
4. Preventive vaccine	No one has yet found a vaccine which will prevent the cold.		The cold beca city can guis
5. Cold shots	"Cold shots" do not prevent the cold, but may reduce the severity, duration, and frequency of attacks.		Ther cold admi trol
6. Good health	The best safeguard against a cold is good health, which provides the maximum resistance to infection.	Should a boy or girl with a lingering cold risk going out of doors on a rainy night?	
7. Nose drops and other remedies	Nose drops and other cold remedies are effective only in relieving the symptoms of a cold.		
8. Self-medication	The common cold is usually a self-limited disease that runs its course in 5-7 days, regardless of any medication that the individual may prescribe for himself or have prescribed for him.		No m whic by a have ienc the cati
H. Influenza	Influenza often produces only a slight inflammation in the respiratory tract, but the disease is characterized by a sudden and profound weakness.	Pamphlet: "Influenza, the Facts," National TB Association.	

AJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
one has yet found a ccine which will prevent e cold.		The development of a practical cold vaccine may be difficult because of the great multiplicity of distinct viruses that can cause clinically undistinguishable diseases.
old shots" do not prevent e cold, but may reduce e severity, duration, and equency of attacks.		There is no cure for the common cold. Antibiotics are sometimes administered to prevent or control a secondary infection.
e best safeguard against cold is good health, ich provides the maximum sistance to infection.	Should a boy or girl with a lingering cold risk going out of doors on a rainy night?	
se drops and other cold medies are effective only relieving the symptoms a cold.		
e common cold is usually self-limited disease at runs its course in 7 days, regardless of y medication that the dividual may prescribe r himself or have prebed for him.		No medicine should be taken which has not been prescribed by a doctor. Only physicians have the knowledge and experience with which to determine the types and amounts of medication to be used.
fluenza often produces ly a slight inflammation the respiratory tract, t the disease is characrized by a sudden and ofound weakness.	Pamphlet: "Influenza, the Facts," National TB Association.	

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
1. Causes	Different types of influenza are caused by viruses of different strains.	
2. Complications	As a result of the profound weakness, serious complications frequently follow influenza.	
3. Preventive vaccines	Vaccines have been developed for the prevention of some strains of influenza.	Reference: "Influenza: Its Virology and Pathologic Significance," E. I. du Pont de Nemours and Co., Wilmington, Delaware 19898.
I. Poliomyelitis	Although it is sometimes called infantile paralysis, poliomyelitis affects persons in all age groups. It does not always result in paralysis, but the paralytic form of the disease may produce serious handicaps.	
1. Causes	Since different forms of polio are caused by three distinct viruses, it is possible for one to have polio more than once.	

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
Different types of influenza are caused by viruses of different strains.		
As a result of the profound weakness, serious complications frequently follow influenza.		As a result of the weakness, serious complications such as pneumonia and other respiratory disorders may follow influenza. In general, influenza complications pose their greatest threat to the very young, the very old, expectant mothers, and those with chronic respiratory conditions.
Vaccines have been developed for the prevention of some strains of influenza.	Reference: "Influenza: Its Virology and Pathologic Significance," E. I. du Pont de Nemours and Co., Wilmington, Delaware 19898.	"New virus strains" may appear from time to time which are unaffected by existing influenza vaccines.
Although it is sometimes called infantile paralysis, poliomyelitis affects persons in all age groups.		
It does not always result in paralysis, but the paralytic form of the disease may produce serious handicaps.		
Since different forms of polio are caused by three distinct viruses, it is possible for one to have polio more than once.		

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPP
2. Prevention	Poliomyelitis is a preventable disease and immunization is recommended for all children.	Film: "The Last Case of Polio," C-9, Lederle Laboratories, Pearl River, New York.	The cut ing pol at abou
3. Types of vaccines			
a. Salk	Salk vaccine is given by injection and consists essentially of dead polio viruses.	Film: "Scientific Method in Action," International Film Bureau.	
b. Sabin	Sabin vaccine is given orally and consists of live, attenuated polio viruses.	Teacher Reference: Report of the Committee on the Control of Infectious Diseases, 1966, American Academy of Pediatrics, $1.50.	The use is cons choice cinatio routine and chi
		Have class research and report on other diseases spread by the respiratory tract, i.e., infectious mononucleosis, infectious hepatitis.	The sup vaccine of admi effecti capacit eradica
J. Hepatitis			
1. Cause	Hepatitis is caused by a virus infection of the liver.	Have a student investigate how some of the most recent epidemics of hepatitis originated.	
2. Types	Hepatitis (inflammation of the liver) is caused by a virus and may be either serum hepatitus or infectious hepatitis.		

OR UNDERSTANDINGS AND UNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
omyelitis is a prevent- disease and immuniza- is recommended for children.	Film: "The Last Case of Polio," C-9, Lederle Laboratories, Pearl River, New York.	The cut-off age for administering polio vaccine is suggested at about 18 years of age.
vaccine is given by ction and consists ntially of dead polio ses.	Film: "Scientific Method in Action," International Film Bureau.	
n vaccine is given ly and consists of attenuated polio ses.	Teacher Reference: Report of the Committee on the Control of Infectious Diseases, 1966, American Academy of Pediatrics, $1.50.	The use of oral polio vaccine is considered the vaccine of choice for community wide vaccination programs and for routine immunization in infancy and childhood.
	Have class research and report on other diseases spread by the respiratory tract, i.e., infectious mononucleosis, infectious hepatitis.	The superiority of oral polio vaccine is attested by its ease of administration, immunogenic effectiveness, protective capacity, and potential for the eradication of polio.
titis is caused by a s infection of the r.	Have a student investigate how some of the most recent epidemics of hepatitis originated.	
titis (inflammation of liver) is caused by a s and may be either n hepatitus or infec- s hepatitis.		

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
a. Serum hepatitis	Serum hepatitis is frequently transmitted via the administration of contaminated human blood plasma or serum.	
b. Infectious hepatitis	Infectious hepatitis is transmitted via the oral-intestinal route.	
3. Symptoms	The virus destroys liver cells causing bile to enter the blood stream. This produces a jaundice similar to that accompanying gallstones. Other symptoms include fever, general weakness, headache, nausea, vomiting, and tenderness in the area of the liver.	
4. Treatment	The family physician's recommendations about proper rest and diet in the recovery phase should be strictly observed. Gamma globulin is effective to prevent illness and is recommended for household contacts.	

R UNDERSTANDINGS AND NDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
hepatitis is fre- ly transmitted via dministration of minated human blood a or serum.		This has been overcome by irradiation of the blood and by using special precautions regarding syringes and needles. Blood donors with a history of jaundice are accepted only in a dire emergency.
tious hepatitis is mitted via the oral- tinal route.		Symptoms appear 18 to 40 days after being infected. Occurs mainly through the intestinal-oral route, but possibly from discharges of the nose and throat of infected persons. Contaminated foods and water may be involved.
irus destroys liver causing bile to the blood stream. produces a jaundice ar to that accompany- allstones. Other oms include fever, al weakness, head- nausea, vomiting, enderness in the of the liver.		
amily physician's mendations about r rest and diet in ecovery phase should rictly observed. globulin is effec- to prevent illness s recommended for old contacts.		

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SU
K. Rabies			
1. Cause	Rabies is caused by a virus and develops in humans as the result of the infected animal's saliva entering the body through a wound or break in the skin.	Film: "Rabies," McGraw-Hill Films.	
2. Characteristics	Although it is generally believed that a rabid animal always bites and is vicious, this is not always true, for some animals are very docile and calm when suffering from rabies.		Rabie humans
3. Prevention	Protection against rabies lies solely in prevention and requires public support and cooperation.	Film: "Rabies Can Be Controlled," C-1, Lederle Laboratories, Pearl River, New York.	A befo protec in exp
4. Observation of animals if possible	Where possible, the dog or animal should be confined and observed by a veterinarian for a period of 10 days. The basis for this period of observation is that rabies is a fatal disease in animals. If the animal survives the 10-day period with no suspicious symptoms, the victim can be assured that there is no risk of rabies.		

R UNDERSTANDINGS AND NDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
s is caused by a and develops in s as the result of nfected animal's a entering the body gh a wound or break e skin.	Film: "Rabies," McGraw-Hill Films.	
ugh it is generally ved that a rabid l always bites and cious, this is not s true, for some ls are very docile alm when suffering rabies.		Rabies is almost always fatal to humans and animals.
ction against rabies solely in prevention equires public rt and cooperation.	Film: "Rabies Can Be Controlled," C-1, Lederle Laboratories, Pearl River, New York.	A before-the-bite vaccine to protect against rabies is now in experimental use.
possible, the dog imal should be con- and observed by a inarian for a d of 10 days.		
asis for this period servation is that s is a fatal disease imals. If the l survives the 10- eriod with no sus- us symptoms, the n can be assured there is no risk of s.		

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
5. "Pasteur treatment" vaccination	If the animal develops symptoms of rabies, prompt action must be taken in providing the "Pasteur treatment" or vaccination against the disease.	
6. Bites by stray or wild animals	If it is not possible to capture or confine the animal, a decision must be made by the physician whether or not to administer the vaccine.	
7. First aid	First aid for animal bites is a must, but it is no substitute for medical attention. Since there is also the risk of other types of infections from all animal bites, a physician should be consulted promptly, so that he may provide whatever immediate treatment is necessary.	Students may report on other diseases spread by animals and insects; i.e.: typhus fever bubonic plague brucellosis psittacosis tularemia

OR UNDERSTANDINGS AND UNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
he animal develops toms of rabies, prompt on must be taken in iding the "Pasteur tment" or vaccination nst the disease.		The main use of rabies vaccine now is an after-the-bite series of painful and potentially dangerous injections. The "Pasteur treatment" is long, expensive, and unpleasant, and does not always protect human beings from developing this disease.
t is not possible to ure or confine the al, a decision must ade by the physician her or not to adminis- the vaccine.		
t aid for animal bites must, but it is no titute for medical ntion.		
e there is also the of other types of ctions from all animal s, a physician should onsulted promptly, hat he may provide ever immediate treat- is necessary.		
	Students may report on other diseases spread by animals and insects; i.e.: typhus fever bubonic plague brucellosis psittacosis tularemia	

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEME FC
L. Some diseases spread through contact with infected persons			
1. Skin diseases	Many skin diseases are spread by direct or indirect contact.		
a. Boils b. Impetigo c. Scabies d. Ringworm e. Pediculosis f. "Pink eye"	All skin lesions should be regarded as communicable unless diagnosed noncommunicable by a physician.		
2. Venereal diseases	Venereal diseases are diseases spread from person to person by direct sexual contact.	Teacher Reference: "The Chains that Can Be Broken," 1966, Report on Venereal Diseases, New York State Health Department.	
a. Most common venereal diseases	The two most common venereal diseases in this country are syphilis and gonorrhea.	Film: "The Invader," New York State Health Department (historical approach). Teacher Reference: "Breakthrough in VD in Los Angeles County," Edward Reinig and Gerald Heidbreder, Public Health Reports, Vol. 82, #6, June 1967.	Syphilis an different d both are co intimate co ferent caus ent effects

OR UNDERSTANDINGS AND UNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
skin diseases are ad by direct or in- ct contact.		
skin lesions should be rded as communicable ss diagnosed noncom- cable by a physician.		
real diseases are dis- s spread from person erson by direct sex- contact.	Teacher Reference: "The Chains that Can Be Broken," 1966, Report on Venereal Diseases, New York State Health Department.	
two most common ven- l diseases in this try are syphilis and rrhea.	Film: "The Invader," New York State Health Department (historical approach).	Syphilis and gonorrhea are two different diseases. Even though both are contracted by the same intimate contact they have different causes and produce different effects.
	Teacher Reference: "Breakthrough in VD in Los Angeles County," Edward Reinig and Gerald Heidbreder, Public Health Reports, Vol. 82, #6, June 1967.	

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	S
		"Resurgence of Venereal Diseases," Report by the Committee on Public Health, New York Academy of Medicine, March 2, 1964, and February 1, 1965. Film: "A Quarter Million Teen-agers," New York State Health Department Film Library. Pamphlet: "Strictly for Teen-agers," New York State Health Department.	
(1) Syphilis			
(a) Cause	Syphilis is caused by a spirochete, a spiral-shaped bacterium that requires moisture and tissue for survival.	Pamphlet: "What You Should Know About Syphilis," New York State Health Department. Film: "Dance Little Children" (This portrays the situations which exist among teen-agers in "respectable" neighborhoods, among "nice" people, that encourages the kind of behavior that leads to VD.)	The Trep requ surv surv dies mois Chie cour and such spir abra Ther that toil

MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
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Syphilis is caused by a spirochete, a spiral-shaped bacterium that requires moisture and tissue for survival.	Pamphlet: "What You Should Know About Syphilis," New York State Health Department. Film: "Dance Little Children" (This portrays the situations which exist among teen-agers in "respectable" neighborhoods, among "nice" people, that encourages the kind of behavior that leads to VD.)	The organism of syphilis, Treponema Pallidum, is an anaerobe requiring moisture and tissue for survival. It is able to grow and survive despite bodily defenses, but dies quickly away from tissues and moisture. Chiefly acquired from sexual intercourse, sometimes from kissing, and from contaminated articles such as drinking glasses, the spirochete will infect any abraded surface on contact. There is no evidence to prove that it is ever acquired from toilet seats or door knobs.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMEN FOR
		Discuss the rise of VD in the United States. Reference: "Morbidity and Mortality, Annual Supplement, Summary 1966," National Communicable Disease Center, Atlanta, Georgia.	Transmission lesion-to-le in cases of Unfortunatel lesion is of conspicuous,
		Have students graph age distribution of venereal disease. Compare cases in New York State with those in other states.	
(b) Symptoms			
i. Primary stage	A painless, ulcerating sore known as a chancre develops where the germ enters the body. Usually in, on, or near the sex organs, although other areas such as the lips, throat, anus, or skin of the hands may be involved.	35mm color transparencies, depicting typical lesions and manifestations of syphilis, selected from the film library of the VD Branch, NCDC, Atlanta, Georgia, plus a descriptive booklet. (Cost: $8.00/set.)	
	A person may contract syphilis and at first be unaware that he has the disease.		
	Since the chancre will heal by itself whether it is treated or not, the person may mistakenly believe that he is cured when it disappears.	Booklet: Student's Manual on Venereal Disease - Facts About Syphilis and Gonorrhea, William F. Schwartz, NEA, 1201 16th Street,	In untreated clears up, ar gresses.

UNDERSTANDINGS AND AMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Discuss the rise of VD in the United States. Reference: "Morbidity and Mortality, Annual Supplement, Summary 1966," National Communicable Disease Center, Atlanta, Georgia.	Transmission of syphilis is a lesion-to-lesion affair except in cases of blood transfusion. Unfortunately, the transmitting lesion is often painless, inconspicuous, and hidden.
	Have students graph age distribution of venereal disease. Compare cases in New York State with those in other states.	
ss, ulcerating wn as a chancre where the germ he body. Usually or near the sex although other ch as the lips, anus, or skin of s may be involved.	35mm color transparencies, depicting typical lesions and manifestations of syphilis, selected from the film library of the VD Branch, NCDC, Atlanta, Georgia, plus a descriptive booklet. (Cost: $8.00/set.)	
may contract and at first be that he has the		
e chancre will itself whether eated or not, on may mistakenly that he is cured disappears.	Booklet: Student's Manual on Venereal Disease - Facts About Syphilis and Gonorrhea, William F. Schwartz, NEA, 1201 16th Street,	In untreated cases the chancre clears up, and the disease progresses.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
		N.W., Washington, D.C. 20036 ($1.00, Teacher's Manual $2.00).
ii. Secondary stage	Since syphilis is most effectively treated in the primary stage, one should seek medical counsel before the disease progresses beyond the early stages.	Discuss: Why has syphilis been called "The Great Imitator"?
iii. Tertiary stage	The primary and secondary stages of syphilis are the infectious stages. The latent period and the third stage usually are noninfectious.	
(c) Complications	Unless proper treatment is given early by qualified medical doctors, the disease may be responsible for ulcers, arthritis, heart disease, blindness, or mental deterioration.	

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	N.W., Washington, D.C. 20036 ($1.00, Teacher's Manual $2.00).	
Since syphilis is most effectively treated in the primary stage, one should seek medical counsel before the disease progresses beyond the early stages.		Second stage where symptoms of fever, sore throat, rash, and severe headache may appear.
	Discuss: Why has syphilis been called "The Great Imitator"?	To help the physician make the correct diagnosis and avoid any delay in treatment, one must be frank with him about intimate contact with possibly infected persons.
The primary and secondary stages of syphilis are the infectious stages. The latent period and the third stage usually are noninfectious.		The great variability in the clinical picture of syphilis, at all stages of the disease, is a well-recognized feature of the infection. i.e.: Early syphilis may exist without characteristic symptoms; in females the primary genital lesion is more often missed because it is less conspicuous. Good diagnostic laboratory aids are consequently of great importance.
Unless proper treatment is given early by qualified medical doctors, the disease may be responsible for ulcers, arthritis, heart disease, blindness, or mental deterioration.		Syphilis is a disease which should be easy to eradicate today. After the second stage, the disease may remain hidden in the body for ten years or more before any damage appears.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPL
(d) Congenital syphilis	A pregnant woman who has syphilis may pass it on to her unborn child, but it is not inherited.		Treatmen vents in the unbo
(2) Gonorrhea			
(a) Cause	Gonorrhea is caused by the gonococcus and is spread by sexual intercourse or other forms of direct sexual contact.	Pamphlet: "What You Should Know about Gonorrhea," New York State Health Department.	
(b) Signs - discharge	Gonorrhea results in an acute inflammation of the genital and urinary tracts and results in a purulent (pus-like) discharge.		
(c) Pain	A painful burning sensation when the bladder is emptied, together with the appearance of pus from the sex organs, should immediately be brought to a physician's attention.		Gonorrhe infectio states, tion of solution eyes. Th from deve infectio result of during pa birth can
(d) Complications	Untreated gonorrhea can cause sterility, blindness, arthritis, and in severe cases, death.		Antibioti gonorrhea potent to
	A person may have syphilis and gonorrhea at the same time.		

UNDERSTANDINGS AND NDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
nant woman who has is may pass it on unborn child, but not inherited.		Treatment during pregnancy prevents infection spreading to the unborn child.
hea is caused by the ccus and is spread ual intercourse or forms of direct contact.	Pamphlet: "What You Should Know about Gonorrhea," New York State Health Department.	
hea results in an inflammation of the l and urinary tracts sults in a purulent ike) discharge.		
ful burning sensa- hen the bladder is d, together with the ance of pus from x organs, should ately be brought hysician's attention.		Gonorrhea germs can also cause infection of the eyes. In many states, law requires instillation of a 1% silver nitrate solution into newborn babies' eyes. This prevents the baby from developing a gonorrheal infection in his eyes as a result of picking up the germs during passage through the birth canal.
ted gonorrhea can sterility, blindness, tis, and in severe death.		
on may have syphilis norrhea at the ime.		Antibiotic therapy that treats gonorrhea may not be sufficiently potent to control syphilis.

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES
b. Venereal disease control		Invite an experienced VD investigator from your health department to discuss case-finding and contact-interviewing as methods of control.
(1) Prevention	There is no vaccine against syphilis or gonorrhea. Recovery from the disease does not result in immunity; reinfection may occur. The development of proper attitudes toward sex and sex conduct is a most important factor in the prevention of venereal disease.	
(a) Individual	It is only with the cooperation of the individual in seeking early treatment that venereal diseases can be diagnosed promptly and treated before permanent damage occurs.	Book: Shadow on the Land, Thomas Parran, Reynald and Hitchcock, New York, 1937. This book preceded the use of penicillin.
(b) Public	Venereal diseases are an important public health problem, requiring public health measures to assure control.	

	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Invite an experienced VD investigator from your health department to discuss case-finding and contact-interviewing as methods of control.	
on	There is no vaccine against syphilis or gonorrhea. Recovery from the disease does not result in immunity; reinfection may occur. The development of proper attitudes toward sex and sex conduct is a most important factor in the prevention of venereal disease.		
l	It is only with the cooperation of the individual in seeking early treatment that venereal diseases can be diagnosed promptly and treated before permanent damage occurs.	Book: Shadow on the Land, Thomas Parran, Reynald and Hitchcock, New York, 1937. This book preceded the use of penicillin.	Promiscuous sex behavior is not without danger - to the individual and to the public.
c	Venereal diseases are an important public health problem, requiring public health measures to assure control.		

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SU
	Public apathy and reluctance to face the problems openly have contributed to the resurgence of these diseases. Blood tests for syphilis prior to marriage and during pregnancy are required in most states as preventive measures.		
(2) Treatment	Since self-treatment of venereal diseases is dangerous and ineffective, their diagnosis and treatment should be a function of a physician. "Quacks" who advertise as specialists in "social diseases" or "men's diseases" are dangerous and should be avoided.	What should you do if you suspect you have a venereal disease? What effect will your decision have upon you as an individual? What effect will it have upon the community? Film: "The Innocent Party," shows the procedure to be expected in a physician's office.	If ea gonor in it inten physi quick the d advan and t cease are.
VI. Public Health Control of Communicable Diseases			Inform health commun found "Envir Health

ÐR UNDERSTANDINGS AND NDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
c apathy and reluc- to face the problems y have contributed to esurgence of these ses.		
tests for syphilis to marriage and g pregnancy are re- d in most states as ntive measures.		
self-treatment of eal diseases is rous and ineffective, diagnosis and ment should be a ion of a physician.	What should you do if you suspect you have a venereal disease? What effect will your decision have upon you as an individual? What effect will it have upon the community?	If each case of syphilis and gonorrhea could be discovered in its earliest stages, and intensively treated by qualified physicians, the individual would quickly be rendered noninfectious, the disastrous effects of the advanced disease would be avoided, and these infections would soon cease to be the menace they now are.
ks" who advertise as alists in "social ses" or "men's ses" are dangerous hould be avoided.	Film: "The Innocent Party," shows the procedure to be expected in a physician's office.	
		Information concerning public health measures for controlling communicable diseases may be found in Strand IV materials, "Environmental and Public Health."

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEME FO
VII. Biological Warfare	Biological warfare relates to the use of disease-producing organisms to the incapacitation of a nation during wartime.		
A. How biological warfare could be waged	Biological warfare may cause death to man and other forms of life.	Discuss with students the ways in which biological warfare could be waged.	Biological by attacki with infect organisms a Organisms t and animals the country
B. Disease-producing organisms used in biological warfare	Bacteria, rickettsia, fungi, viruses, toxins, and other biological products may be used.	Discuss the disease producing organisms that could be used in biological warfare.	Any communi affect plan beings coul logical war and the Bot Botulinus b dangerous t
C. How disease-producing organisms would be spread during biological warfare	Disease could be spread through the air, the water supply, or the food supply.	Discuss the ways in which disease-producing organisms might be spread during biological warfare.	Germs could sprays call specially d voirs could toxin bombs above the w face. Plan wheat rust, plants, cou wheat-growi country. Discuss the that could logical war immunizatio food, water

R UNDERSTANDINGS AND NDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
ical warfare relates e use of disease-pro- organisms to the citation of a nation wartime.		
ical warfare may death to man and forms of life.	Discuss with students the ways in which biological warfare could be waged.	Biological warfare could be waged by attacking an enemy population with infectious disease-producing organisms and their toxins. Organisms that affect man, plants, and animals could be spread over the country.
ia, rickettsia, viruses, toxins, her biological ts may be used.	Discuss the disease producing organisms that could be used in biological warfare.	Any communicable disease that can affect plants, animals, or human beings could be employed in biological warfare. Typhoid fever and the Botulinus toxin of the Botulinus bacillus are extremely dangerous to man.
e could be spread h the air, the supply, or the upply.	Discuss the ways in which disease-producing organisms might be spread during biological warfare.	Germs could be dispersed by fine sprays called aerosols, or by specially designed bombs. Reservoirs could be contaminated by toxin bombs, detonated either above the water or under the surface. Plant diseases such as wheat rust, which kills wheat plants, could be spread over the wheat-growing sections of the country. Discuss the protective measures that could be taken during a biological warfare attack. Discuss immunization; the treatment of food, water, and eating utensils;

OUTLINE OF CONTENT	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTAR FOR TE
			the wearing of the inhalation use of ultravio disinfecting ap
D. Protective measures that could be taken during a biological attack	Immunization against diseases that could be used in warfare would give the best protection.		Mass immunizati that could be u improved method in reporting di infectious natu education of th field of contag all types are e defense in case warfare.

UNDERSTANDINGS AND DAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		the wearing of masks to prevent the inhalation of germs; the use of ultraviolet lamps and other disinfecting apparatus.
zation against dis- that could be used fare would give st protection.		Mass immunization against diseases that could be used in warfare, improved methods of communication in reporting diseases of an infectious nature, and thorough education of the public in the field of contagious diseases of all types are essential for defense in cases of biological warfare.

DISEASE PREVENTION AND CONTROL - MULTIMEDIA RESOURCES AND TEACHER REFERENCES FOR GRADES 10

These supplementary aids have not been evaluated. The list is appended for teacher conv
teachers in the field are requested to critically evaluate the materials and to forward
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Cornacchia, Harold J. *Venereal diseases.* Chicago. Lyons & Carnahan. 1966.

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Pamphlets

American Medical Association. 535 Dearborn Street, Chicago, Illinois 60610. *measles and your child.*

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Be safe, be sure.
Common cold, the facts.
Do I need a chest X ray?
Help fight TB.
How your body fights TB.
Influenza, the facts.
Pneumonia, the facts.
TB? Is that still a problem?
The TB test.
The you in TB.
This is Mr. TB germ.
What TB means to you.
What you need to know about TB.

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Common cold.
Strictly for teen-agers - some facts about venereal disease.
What you should know about gonorrhea.
What you should know about measles and the measles vaccine.
What you should know about syphilis.

SUGGESTED AUDIOVISUAL AIDS

Filmstrips

The long adventure. National Tuberculosis Association.

Films

Are you positive? National Tuberculosis Association.
Dance little children. New York State Health Department Film Library.
The elusive enemy. National Tuberculosis Association.
The infectious diarrheas. New York State Health Department Film Library.
The innocent party.
The invader. New York State Health Department Film Library.
The last case of polio. C-9, Lederle Laboratories, Pearl River, New York.
Mosquito and its control. Coronet Films.
A quarter million teenagers. New York State Health Department Film Library.
Rabies. McGraw-Hill Films.
Rabies can be controlled. C-1, Lederle Laboratories, Pearl River, New York.
Scientific method of action. International Film Bureau.
Yellow Jack and mosquitoes. International Film Bureau.

35mm Slides

Color transparencies, depicting typical lesions and manifestations of syphilis, selected from the Film Library of the VD Branch, National Communicable Disease Center, Atlanta, Georgia, plus a descriptive booklet. Cost $8.00. May be purchased from Color Film Corp., Mamaroneck, New York 10543.